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**Rocky Mountain
Remediation Services, L.L.C**
... protecting the environment

Rocky Flats Environmental Technology Site
P.O. Box 464
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Phone: (303) 966-2729
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October 15, 1996

96-RM-TA-0188-KH

R.M. Leitner, Program Manager
Compliance & Performance Assurance
Building T130C
Kaiser-Hill

**RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) CLOSURE CERTIFICATION
FOR MIXED RESIDUE PILOT PROJECT #1 - BUILDING 777, PENCIL TANKS T-A1, T-A2, T-3
AND T-4 - GRK-0273-96**

Action: Transmit RCRA closure certification to Department of Energy, Rocky Flats Field Office (DOE, RFFO)

Rocky Mountain Remediation Services, L.L.C., (RMRS) is submitting the attached RCRA closure certification for the Mixed Residue Pencil Tanks Pilot Project in Building 777.

All closures were performed in accordance with applicable Colorado Hazardous Waste Act (CHWA) requirements for closure under interim status in 6 Code of Colorado Regulations (CCR) 1007-3, Part 265, and the Mixed Residue Container Units Closure Plan (November 1995). Closure activities included size reduction of the tanks, followed by cleaning of the pipe sections with decontamination solution and water, and visual inspection for comparison to the closure performance standard. Closure activities were evaluated by an independent, Colorado-registered professional engineer, as required by the Closure Plan.

Please send this closure certification to DOE, RFFO, at your earliest convenience. Draft letters to DOE, RFFO and to the Colorado Department of Public Health and Environment (CDPHE) are attached.

If you have questions, please contact me at extension 2729, or Natalie Van Tyne at extension 5893.

Gary R. Konwinski, Manager
Performance Assurance

NCTVT

ADMIN RECCRD

IA-A-000736



R.M. Leitner
96-RM-TA-0188-KH/GRK-273-96
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Attachments:
As Stated (3)

cc w/attachment:

R.V. Morgan	-	K-H (B441)
B.C. McGuire	-	SSOC (B776)
T.M. Karas	-	LATA (B886)
A.L. Ramey	-	LATA (B886)
RMRS Records Center	-	RMRS (B116)
File	-	RMRS (T130F)

cc w/o attachment:

K. North	-	K-H (T130C)
L.A. Gregory-Frost	-	SSOC (B750)
W.M. Wierzbicki	-	SSOC (B750)
C.C. Jierree	-	RMRS (T130F)

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October xx, 1996

96-RF-xxxxx

Steven Tower, Lead
Regulatory Assessment Group
Rocky Flats Field Office
U.S. Department of Energy

Attn: David Grosek

**RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) CLOSURE CERTIFICATION
FOR MIXED RESIDUE PILOT PROJECT #1 - BUILDING 777, PENCIL TANKS T-A1, T-A2, T-3
AND T-4 - RML-0xx-96**

Kaiser-Hill Company, L.L.C., is submitting the enclosed RCRA closure certification for the Mixed Residue Pencil Tanks Pilot Project #1 in Building 777.

All closures were performed in accordance with applicable Colorado Hazardous Waste Act (CHWA) requirements for closure under interim status in 6 Code of Colorado Regulations (CCR) 1007-3, Part 265, and the Mixed Residue Container Units Closure Plan (November 1995). Closure activities included size reduction of the tanks, followed by cleaning of the pipe sections with decontamination solution and water, and visual inspection for comparison to the closure performance standard. Closure activities were evaluated by an independent, Colorado-registered professional engineer, as required by the Closure Plan.

Please send this closure certification to the Colorado Department of Public Health and Environment (CDPHE) at your earliest convenience. A draft letter to CDPHE is attached.

If you have questions, please contact me at extension 3537, or Natalie Van Tyne or RMRS at extension 5893.

R.M. Leitner, Program Manager
Compliance & Performance Assurance
Kaiser-Hill

Enclosure:
As Stated (2)

Original and 1 cc. - Steven Tower

Distribution w/attachment:

L.N. Xuan	-	DOE, RFFO
K. North	-	K-H
N.C.T. Van Tyne	-	RMRS

Enclosure
96-RF-XXX
Page 1 of 1

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Mr. Joe Schieffelin, Unit Leader
Colorado Department of Public Health and the Environment
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530

Dear Mr. Schieffelin:

The United States Department of Energy, Rocky Flats Field Office (DOE, RFFO) is submitting the enclosed Resource Conservation and Recovery Act (RCRA) closure certification for the Mixed Residue Pencil Tanks Pilot Project #1 in Building 777.

All closures were performed in accordance with applicable Colorado Hazardous Waste Act (CHWA) requirements for closure under interim status in 6 Code of Colorado Regulations (CCR) 1007-3, Part 265, and the Mixed Residue Container Units Closure Plan (November 1995). Closure activities included size reduction of the tanks, followed by cleaning of the pipe sections with decontamination solution and water, and visual inspection for comparison to the closure performance standard. Closure activities were evaluated by an independent, Colorado-registered professional engineer, as required by the Closure Plan.

If you have any questions, please contact Lam N. Xuan at 966-3135.

Bob April, Lead
Environmental Liaison Group
Rocky Flats Field Office
U.S. Department of Energy

Enclosure

cc w/enclosure:

C. Gilbreath	-	CDPHE
D. Grosek	-	DOE, RFFO
L.N. Xuan	-	DOE, RFFO
R.M. Leitner	-	K-H
R.V. Morgan	-	K-H
K. North	-	K-H
B.C. McGuire	-	SSOC
T.M. Karas	-	LATA
A.L. Ramey	-	LATA
N.C.T. Van Tyne	-	RMRS

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**Certification of RCRA Closure
for Mixed Residue
Pilot Project #3 - Bldg. 777,
Tanks T-A1, T-A2, T-3 and T-4**



Reviewed for Classification/UCNI

By: Natalie C. [Signature]

Date: 10/15/96

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**CERTIFICATION OF RCRA CLOSURE
FOR THE
MIXED RESIDUE TANK CLOSURE PILOT PROJECT #1**

October 3, 1996

Prepared for:

**Rocky Mountain Remediation Services, L.L.C.
Golden, Colorado 80402-0464**

Prepared by:

**WASTREN, Inc.
1333 West 120th Ave., Suite 300
Westminster, Colorado 80234
(303) 450-0005**

REVIEWED FOR CLASSIFICATION

BY

DATE

[Signature] *[Initials]*
10/07/96

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ACRONYMS

CCR	Code of Colorado Regulations
CHWA	Colorado Hazardous Waste Act
DOE	Department of Energy
EPA	Environmental Protection Agency
MRTC	Mixed Residue Tank Closure
PE	Professional Engineer
RCRA	Resource Conservation and Recovery Act
TSP	Trisodium Phosphate

1.0 INTRODUCTION

The purpose of this report is to certify the Resource Conservation and Recovery Act (RCRA) closure of tank systems T-A1, T-A2, T-3, and T-4 in Building 777 at the Rocky Flats Environmental Technology Site. Closure of these tank systems is a pilot project for the Mixed Residue Tank Closure (MRTC) program at Rocky Flats. The pilot project is a demonstration of activities required for closure of pencil tank systems that have contained mixed residues. *WASTREN, Inc.* has been retained by Rocky Mountain Remediation Services to perform this certification. This report provides the evidence to support the closure determinations by the owner/operator and an independent professional engineer (P.E.) as required by 6 Code of Colorado Regulations (CCR) 1007-3 265.115. The data required for the closure determinations are included in this report. The closure of these four tank systems was performed in accordance with applicable Colorado Hazardous Waste Act (CHWA) interim status requirements in 6 CCR 1007-3 Section 265 and the approved RCRA closure plan, *Mixed Residue Tank Closure Pilot Project #1 Closure Plan* (DOE 1995).

1.1 Historical Overview

Tanks T-A1 and T-A2 were used to collect waste machining oil solutions contaminated with carbon tetrachloride and 1,1,1-trichloroethane from plutonium machining operations in Room 131 gloveboxes. The tanks are pencil tanks measuring 5.76 inches in diameter and 20 feet in length. Ancillary equipment associated with the tanks includes valves, pumps, and piping.

Tanks T-3 and T-4 were used to collect waste carbon tetrachloride from Glovebox 509 in Room 430. These are also pencil tanks measuring 5.76 inches in diameter and 20 feet in length. Ancillary equipment associated with the tanks includes valves, pumps, and piping.

1.2 Waste Characterization

Pencil tanks T-A1, T-A2, T-3, and T-4 and associated ancillary equipment contained waste oil and solvent mixtures containing carbon tetrachloride and 1,1,1-trichloroethane. The carbon tetrachloride and 1,1,1-trichloroethane were used as degreasing solvents in the processes associated with the tank systems.

2.0 RCRA FACILITY INVESTIGATION

A detailed description of the closure activities can be found in the Closure Plan (DOE 1995). A summary of the closure activities is listed below.

- Cleaning of Pencil Tanks and Ancillary Equipment

The pencil tanks and two-inch diameter stainless steel piping were cut into approximately 27-inch sections. The sections of Tanks T-A1, T-A2, and T-3, and the two-inch diameter piping from Room 131 were cleaned by the debris rule chemical extraction technology of "water washing and spraying" as defined in 6 CCR 1007-3 Part 268.45. This was done by inserting a cloth rag or towel part way into the pipe or tank section and pouring a trisodium phosphate (TSP) and water solution onto the cloth. A steel rod was used to force the cloth through the section of pipe. A 4-inch diameter plunger-type device was used to push the cloth through the tank section. This was done up to two times with the TSP solution. A clean cloth was inserted into the pipe or tank section and water was poured onto the cloth. The cloth was then shoved through the section.

- Visual Inspection

After each section was washed and rinsed, it was visually inspected to determine if it met the closure performance standard as stated in Section 5.0 of the Closure Plan. The inside of the pencil tanks and the two-inch diameter piping were visually inspected by shining a flashlight through the section. Less than 5 percent staining was observed in the two-inch piping from Room 131 and in Tanks T-A1 and T-A2. Therefore, the two-inch piping from Room 131 and Tanks T-A1 and T-A2 met the closure performance standard and will be managed as hazardous debris.

Tanks T-3 and T-4, and the associated two-inch diameter piping from Room 430 contained a black residue, and attempts to clean Tank T-3 were unsuccessful. For this reason, cleaning of Tank T-4 and the two-inch diameter piping from Room 430 was not attempted. Therefore, these tanks and piping did not meet the closure performance standard and will be managed as mixed waste.

Ancillary equipment that could not be adequately inspected was managed as mixed waste. This included piping that was less than two-inch diameter (including the branch lines on the two-inch pipe), pumps, and pipe fittings such as valves, elbows, and flanges. Pumps were disassembled to remove residual liquids before being placed into a drum.

The above activities were performed to meet the closure performance standards required by the Closure Plan (DOE 1995). RCRA Subpart G, Part 265.111(b), and the Code of Colorado Regulations (6 CCR 1007-3 265.111(b)) require a closure performance standard that "controls, minimizes, or eliminates [contamination] to the extent necessary to protect human health and the environment." The closure activities demonstrate that contamination has been minimized and applicable protection afforded.

3.0 RCRA CLOSURE CERTIFICATION ACTIVITIES

The following activities were performed to certify the closure criteria as defined in the Closure Plan (DOE 1995).

WASTREN personnel observed the initial cutting and cleaning of the tank systems on July 26, 1996. Two-inch diameter stainless steel piping from Room 131 was fed into the portable glovebox and cut to approximately 27-inch lengths. A cloth rag was inserted part way into the length of pipe and a TSP and water solution was poured onto the rag. A steel rod was used to force the rag through the pipe. This was done up to three times with the TSP solution. A clean dry rag was then pushed through the pipe with the steel rod. The clean rag was inserted into the pipe and water was poured onto the rag. The rag was shoved through the pipe with the steel rod. This was done up to two times using water.

After being forced through the pipe, the rags used for the TSP rinse had some staining, but the rags used for the water rinse were not stained. The inside of the pipe was visually inspected by shining a flashlight through the pipe. Minimal to no staining was observed. After each length of pipe was inspected, it was placed into a drum attached to the portable glovebox. After several lengths of pipe were cleaned, the TSP rags became stained. As this happened, the stained rags were replaced with the rags that were used for the water rinse, and new rags were used for the water rinse.

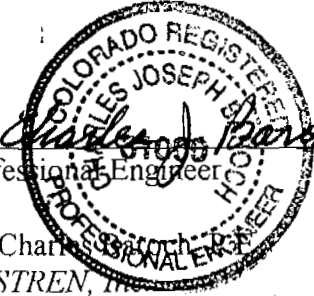
The two-inch piping had several half-inch branch lines that were too small for visual inspection. The two-inch piping was cut on either side of the half-inch line, and the section was set aside until a drum for mixed waste was attached to the portable glovebox.

WASTREN personnel had several discussions with the RCRA Closure Project Manager and the job foreman about subsequent closure activities. They indicated that piping less than two-inch diameter (including the branch lines on the two-inch pipe) was too small to visually inspect and was managed as mixed waste. The two-inch pipe from Room 430 was significantly stained and was managed as mixed waste. They also said that pumps and pipe fittings such as valves and elbows were managed as mixed waste. Pumps were disassembled to remove residual liquids before being placed into a drum. In addition, they indicated that Tanks T-A1 and T-A2 had essentially no staining, but Tanks T-3 and T-4 contained a black layered residue. Tanks T-3 and T-4 were managed as mixed waste.

4.0 CONCLUSIONS AND CLOSURE CERTIFICATION

Based on *WASTREN's* observations and investigations as presented in this report, the RCRA closure performance standards have been met for closure of the T-A1, T-A2, T-3, and T-4 tank systems as defined in the Closure Plan.

The undersigned hereby certifies that the closure of the T-A1, T-A2, T-3, and T-4 tank systems at the Rocky Flats Environmental Technology Site was performed in accordance with the specifications of the approved closure plan entitled *Mixed Residue Tank Closure Pilot Project #1 Closure Plan*, dated September 26, 1995 (DOE 1995).


Professional Engineer
Dr. Charles Joseph Baroch
WASTREN, Inc.
1333 West 120th Ave., Suite 314
Westminster, CO 80234

Oct 3, 1996
Date

5.0 SELECT REFERENCES

Code of Colorado Regulations, Section 6, Part 265.

Code of Federal Regulations, Title 40, Part 265.

DOE. 1995. *Mixed Residue Tank Closure Pilot Project #1 Closure Plan*. EPA ID No. CO7890010526. U.S. Department of Energy, Rocky Flats Environmental Technology Site. September 26.